CLAIMS

What is claimed is:

1. A structure of pick-up head, which utilizes the way of electric reading / electric writing to access data on a disk provided with ferroelectric material, the structure comprising:

a signal-writing unit for providing a voltage to write down signals on the disk;

a signal-processing unit for coping with electric signals read from the data-storing surface on the disk; and

a pair of conductive wires extended from the signal-writing unit and the signal-processing unit, wherein the ends of the wires are close but separate to a gap, the signal-writing unit exerts a voltage on the wires to let the ends generate a electric field around the gap so as to polarize the data-storing surface on the disk to perform the function of writing; and when the function of reading is performed, the ends of the wires are approached the data-storing surface to induce the situation of polarizing, and then the electric signals read from the disk are transmitted to the signal-processing unit.

2. The structure according to claim 1, wherein the pick-up head further comprises a switch for determining the pair of wires being connected with the signal-writing unit or the signal-processing unit.

3. The structure according to claim 1, wherein the pick-up head further comprises a pedestal for fixing the pair of wires so as to control the positions of the ends of the wires.

4. A structure of pick-up head, which utilizes the way of optical reading / electric writing to access data on a disk provided with ferroelectric material, the structure comprising:

a signal-writing unit for providing a voltage to write down signals on the disk;

a pair of conductive wires extended from the signal-writing unit, wherein the ends of the wires are close but separate to a gap, the signal-writing unit exerts a voltage on the wires to let the ends generate a electric field around the gap so as to polarize the data-storing surface on the disk to perform the function of writing;

a laser diode for emitting a laser beam to read the signals written by the pair of conductive wires;

an object lens for focusing the laser beam on the data-storing surface on the disk to turn into a reading optical point; and

a photodetector for translating a reflective beam from the reading optical point into a electric signal.

5. The structure according to claim 4, wherein the pick-up head further comprises:

a collimator for coping with the laser beam emitted from the laser diode into a parallel optical beam;

a polarization beam splitter for separating the laser beam emitted from the laser diode and the reflective beam from the reading optical point; and

a focusing lens for focusing the reflective beam from the polarization beam splitter on the photodetector.

6. The structure according to claim 4, wherein the pick-up head further comprises a pedestal for fixing the pair of wires so as to control the positions of the ends of the wires.

7. A method for accessing signals applied in pick-up head, which utilizes the way of electric reading / electric writing to access data on a disk provided with ferroelectric

material, the method comprising:

exerting a voltage on a pair of conductive wires while writing, the ends of the conductive wires generate a microelectrode and the microelectrode generates a electric field;

letting the electric field generated by the microelectrode approach the disk so as to polarize the data-storing surface made by the ferroelectric material to write down signals;

unexerting a voltage on the pair of conductive wires while reading, and utilizing the ends of the conductive wires to induce the polarized electric charges on the data-storing surface; and

processing electric signals which individually represent the polarized electric charges.

8. The structure according to claim 7, wherein utilizes the polarizing area and unpolarizing area or different directions of polarization on the data-storing surface to represent digital data 1 and 0.

9. The structure according to claim 7, wherein the pick-up head further comprises a pedestal for fixing the pair of wires so as to control the positions of the ends of the wires.

10. A method for accessing signals applied in pick-up head, which utilizes the way of optical reading / electric writing to access data on a disk provided with ferroelectric material, the method comprising:

exerting a voltage on a pair of conductive wires while writing, the ends of the conductive wires generate a microelectrode and the microelectrode generates a electric field;

letting the electric field generated by the microelectrode approach the disk so

as to polarize the data-storing surface made by the ferroelectric material to write down signals;

casting a laser beam while reading, the laser beam passes through an object lens and focuses on the data-storing surface to turn into a reading optical point; and

utilizing a photodetector to receive a reflective beam from the reading optical point and translating the reflective beam to an electric signal.

11. The structure according to claim 10, wherein utilizes the polarizing area and unpolarizing area or different directions of polarization on the data-storing surface to represent digital data 1 and 0.

12. The structure according to claim 10, wherein the pick-up head further comprises a pedestal for fixing the pair of wires so as to control the positions of the ends of the wires.